

**Interface for the connection of radio systems to
wired communication systems**

RiFace TV G/M

User's Manual

RIEDEL
THE COMMUNICATIONS PEOPLE

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1. Introduction

Safety Information

Please carefully read the following information before the installation and use your RiFace TV.

The RiFace TV is only to be used with the supplied 3-pronged power cable connected to a grounded power source.

In order to guarantee safe operation, the main fuse is only to be replaced with a fuse of an equal value.

The radios provided conform with the laws and regulations of the Federal Republic of Germany. However, an application must normally be made to the local licensing authority in order to obtain approved frequencies and approval for the operating mode. Semi-duplex operation is not permitted in all locations.

The unit should only be opened by trained service personnel!

1.1 The RiFace TV G/M

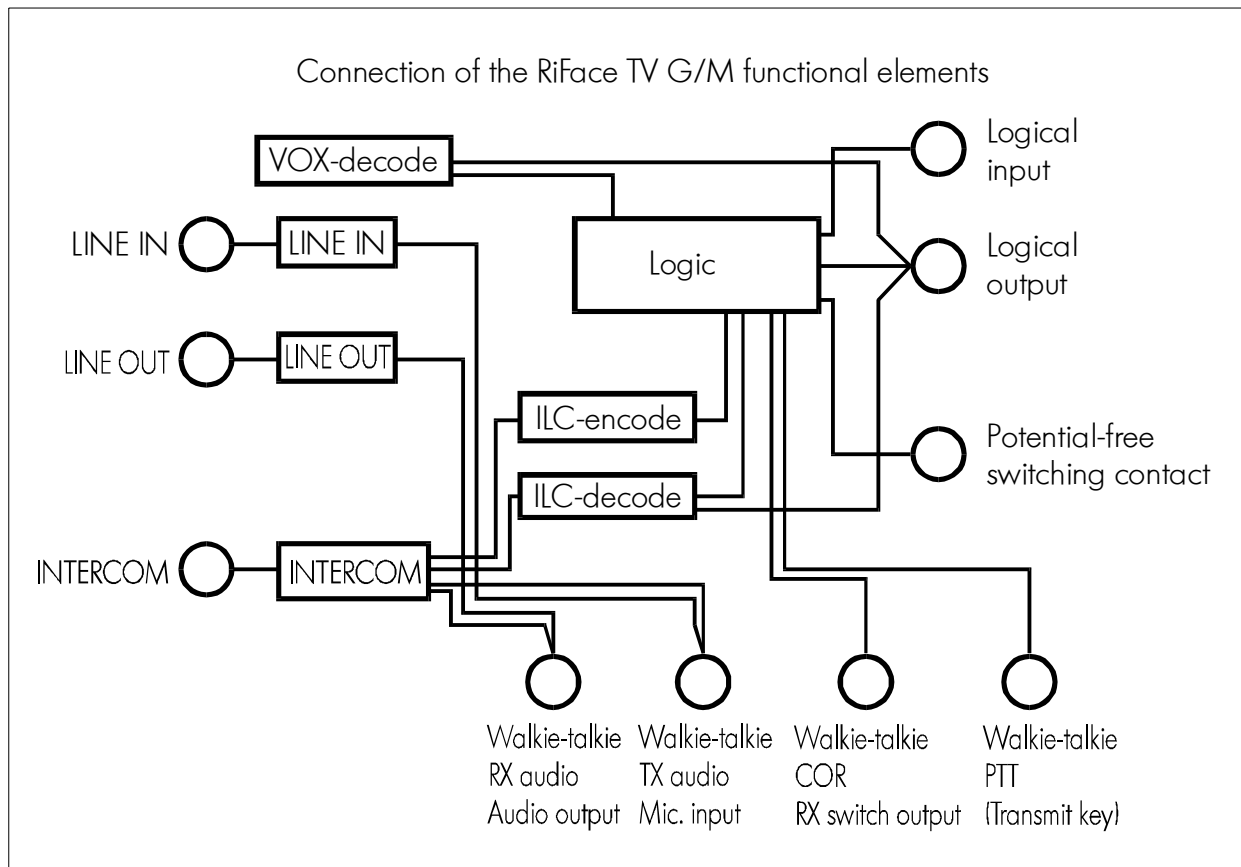
The RiFace TV G/M is a universal radio interface for audio signals. The main components are:

- One or two officially approved professional radios, which can be connected or work independently.
- One micro controller per radio to control the logic circuitry
- Circuits for each radio unit to control the volume of the various audio sources.

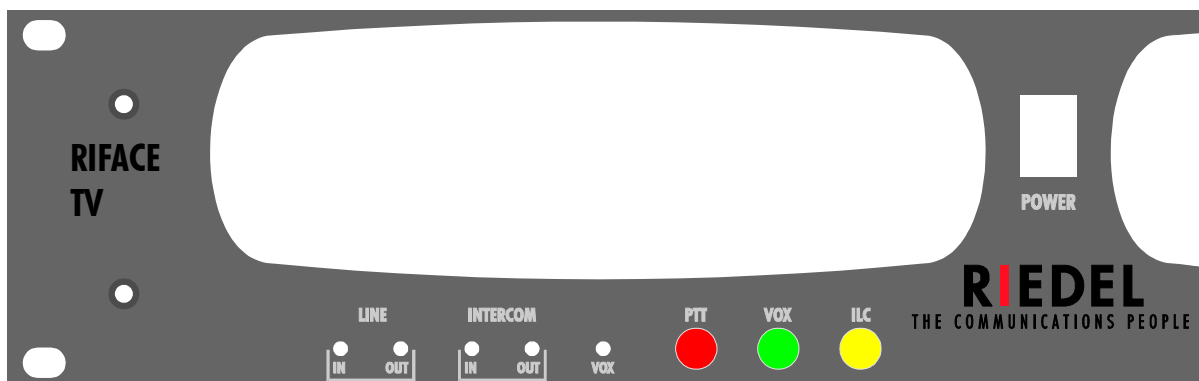
Every radio unit can process both intercom standards (2-wire and 4-wire). An external power supply is necessary when using the system with intercom.



1.1.1 Block Diagram



2. Display and Operating Elements



The power switch with an integrated LED is located on the front side in the middle of the panel.

Operating elements for each radio

The level controls are located on the front under the respective radios and are slightly recessed behind the panel. A small screwdriver is required.

Controls from left to right, including function:

LINE In, LINE Out, INTERCOM In, INTERCOM Out, VOX threshold

PTT - illuminated push button (red) for PTT function

Pressing the button activates continuous transmission

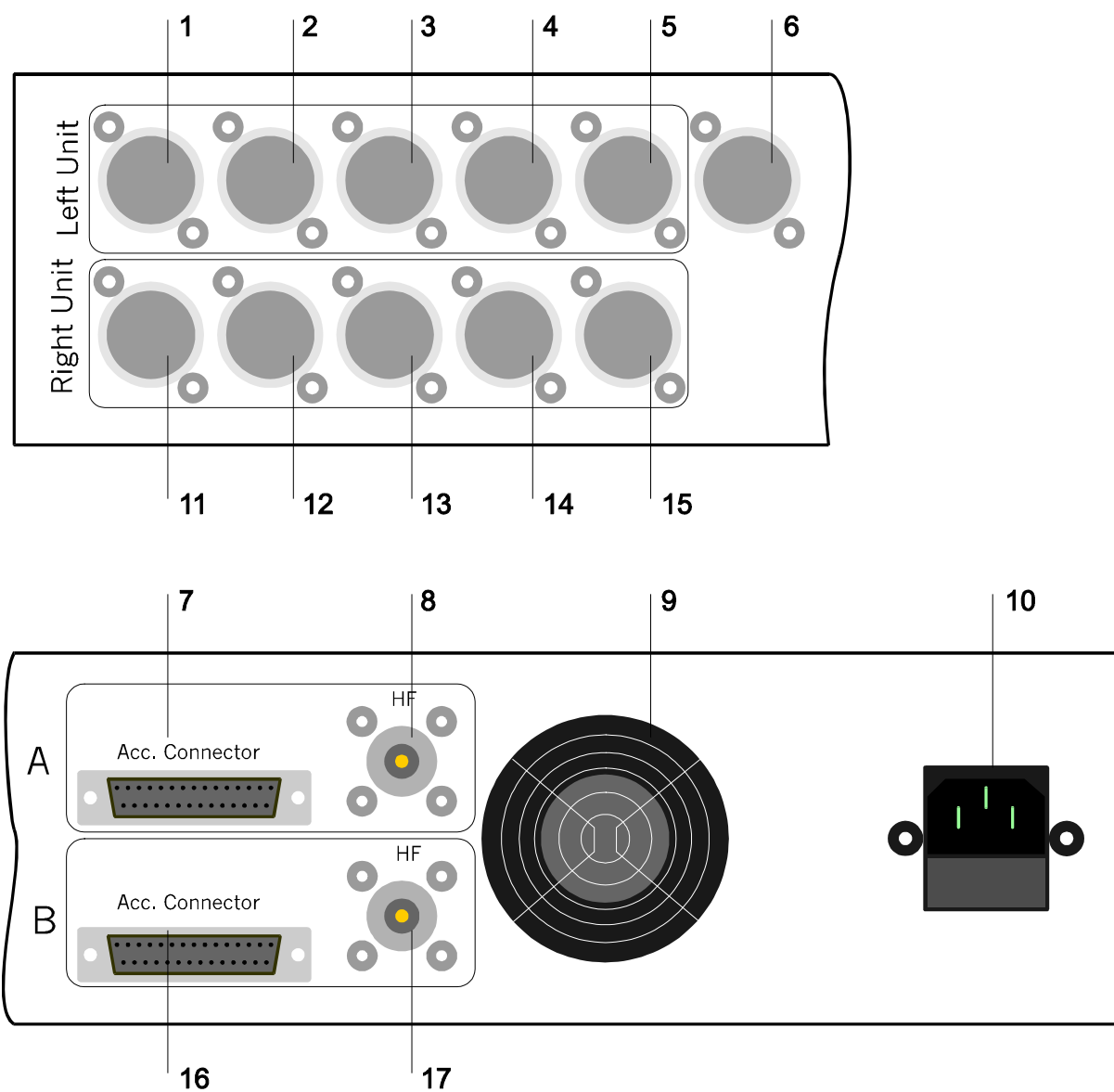
VOX - illuminated push button (green) to activate the VOX function

Pressing the button activates transmission when the signal is above the set level

ILC – illuminated push button (yellow) for the activation of the call light forwarding function. Pressing the button causes a light call to be activated during reception of a signal. Additionally, transmission is triggered by receipt of a light call.

Information about the operating elements of the radios themselves is contained in section 4 of this manual.

2.1 Ports



Basic version:

1. LINE IN	XLR 3 f
2. LINE OUT	XLR 3 m
3. INTERCOM	XLR 3 f
4. INTERCOM	XLR 3 m
5. TX ext.	XLR 5 m (For setting, see 2.1.3)
6. Busy	XLR 4 m (for two radios)
7. Acc.-Connector	D-Sub 25 f
8. HF, Antenna	N socket
9. Fans	
10. AC-230V	power receptacle for cables with standard cold appliance connector, protected by fuse

Erweiterte- Version:

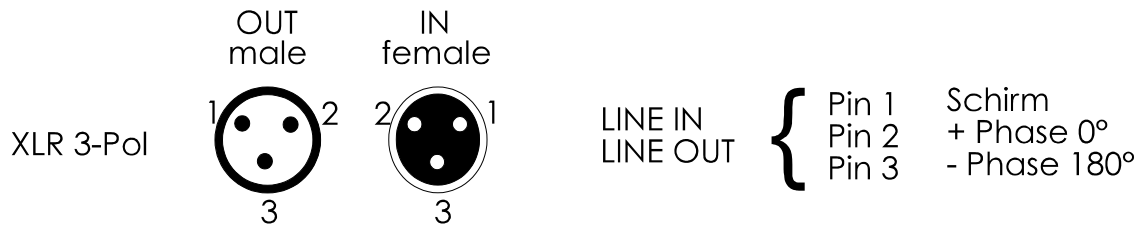
11. LINE IN	XLR 3 f
12. LINE OUT	XLR 3 m
13. INTERCOM	XLR 3 f
14. INTERCOM	XLR 3 m
15. TX ext.	XLR 5 m (for settings, see 2.1.3)
16. Acc.-Connector	D-Sub 25 f

17. HF, Antenna N socket

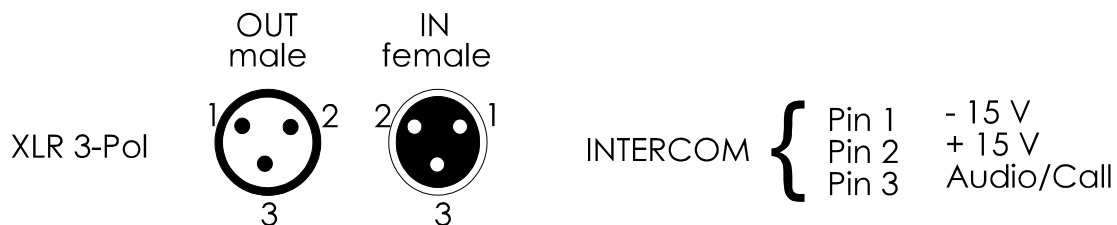
In the extended (semi-duplex) version there are separate ports for each radio. There is only one XLR 4 m socket for the busy signal.



2.1.1 Line Connections



2.1.2 Intercom Connections



Standard colors of the 3 pin XLR wires:

Pin 1	screen, black
Pin 2	red
Pin 3	blue or white

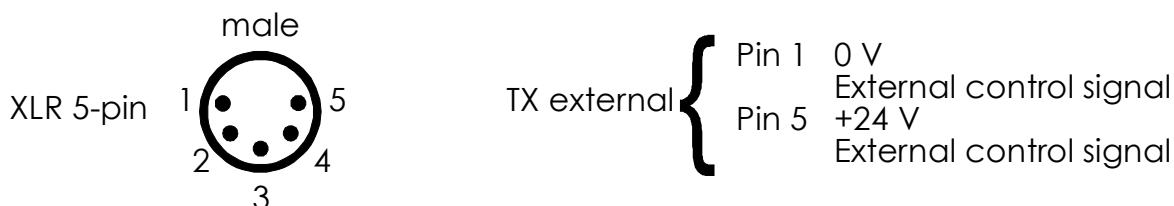
2.1.3 TX ext.

External transmission requests

Transmission through a contact closure (standard setting)



Transmission through a 24 V (light signal). Polarity determined by customer specifications.



2.1.4 BUSY

Potential free contact closure on signal reception (RX recognition)



The busy switching contact for the remote connector and 4-pin XLR belong to the same relay but are independent of one another.

2.1.5 Accessory Connector

Pin assignment of the 25 pin Sub D connector

Pin		Kind of signal	Function	Signal-Activity
1	Vcc		Ext. supply	Fixed voltage
2	+5V		Ext. supply	Fixed voltage
3	RX Audio	audio out	Reception audio from FuG	FuG specific
4	LINE IN Pin2	audio in	Symm. audio input	+ 6 dBV
5	LINE OUT Pin3	audio out	Symm. audio output	+ 6 dBV
6	LS+	audio out	Loudspeaker FuG	AC with DC offset
7	LS-	audio out	Loudspeaker FuG	AC with DC offset
8	Ext. Alarm	digital in/out	Output FuG, input PIC	Vcc
9	VOX decode	digital out	Talk switch reference LINE IN	low active
10	ILC REQ	digital in	Light signal request	low active
11	BUSY Rel 2B COM	Relay contact	See Pin 23 and 24	Potential-free
12	PTT ACK Rel 1C NC	Relay contact	At standby and receive at Pin 25	Potential-free
13	PTT ACK REL 1C NO	Relay contact	At transmit at Pin 25	Potential-free
14	-Vcc	Reference	Earth, reference for digital in/out	Fixed voltage
15	MIC	audio in	Microphone input FuG	Electret supply
16	LINE IN Pin3	audio in	Symm. audio input	+ 6 dBV
17	LINE OUT Pin2	audio in	Symm. audio output	+ 6 dBV
18	RSSI	analog out	Received field strength	Proportional to field Strength
19	Free (HOOK GM300)	FuG spec.		low active
20	PTT REQ	digital in	Transmitting request	low active
21	ILC decode	digital out	Light signal analyzer	low active
22	OMIT PTT	digital in	Transmit prohibition	low active
23	BUSY Rel 2B NC	Relay contact	At standby and transmit at Pin 11	Potential-free
24	BUSY Rel 2B NO	Relay contact	At receive at Pin 11	Potential-free
25	PTT ACK Rel 1C COM	Relay contact	See Pin 12 and 13	Potential-free

3. Setting up the RiFace TV

General

1. Connect the audio lines **LINE IN**, **LINE OUT** or **INTERCOM** according to requirements.
2. Connect an antenna with the correct frequency for the radios to the socket marked **HF**.
3. Connect mains via power receptacle.

Your RiFace TV is ready for operation after the power switch has been activated.

3.1 RiFace TV in simplex mode

The individual radio units work in simplex operation (i.e. alternation between receiving and sending by keying the transmitter).

This keying can be effected from the following sources:

- Operating the PTT illuminated push button
- A light signal (ILC active) initiated in the intercom circuit
- A line audio signal (VOX active)
- Via an external transmitting request, e.g. switching contact.

3.1.1 RiFace TV in semi-duplex mode

If you have a RiFace with two radios, then you can operate it in a semi-duplex mode. Normally, one radio unit is set to constant transmission while the other remains on receive. It is thus possible to create a constant audio connection between intercom and radio users, whereby the activation of the light signal button to transmit is not required.

Set up

Feed the incoming into the LINE or INTERCOM socket for the left radio unit. Set the unit to transmit by pressing the PTT illuminated push button. The right unit reception signal can be recognized via LINE or INTERCOM. If communication between the radios is required this can be achieved via a connection between the two accessory ports.

Note: semi-duplex operation is only permitted with local regulatory approval.

3.1.2 Repeater / Frequency converter functions

A RiFace with two radios can also be operated as a repeater / frequency converter in simplex operation. In this case one radio is set to constant transmission, the other to receive. It is also possible to operate the repeater function in both directions.

3.2 Connection to 2-wire INTERCOM

The connection to your 2-wire intercom system is accomplished via the XLR intercom socket at rear of the unit (3/4 basic version 14/15 extended version).

If the RiFace TV is used in the basic version, then the connection to the intercom must be in a simplex mode of operation. The intercom user must hold the light call button pressed while talking to the radio user, provided that the ILC illuminated push button on the radio unit has been activated (lights yellow when activated). Upon reception of a signal, the RiFace transmits a light on the intercom line. Additionally, the PTT illuminated push button on the radio unit can be used to key transmission (lights red when activated). The PTT illuminated push button should then be reset for to allow reception (light off).

Adjusting the signal level from the intercom to the radio is carried out via the INTERCOM IN level control located on the front of the RiFace TV. Conversely, raising or lowering the signal level to your intercom system from the radio is accomplished via the INTERCOM OUT controller.

If you are using an extended version, then you can use the unit in a semi-duplex mode of operation. In order to do so, one radio unit is set to permanent transmission, while the other remains on receive. Thus during operation, the intercom user does not need to press the light signal button to transmit. The user is constantly on transmit and can speak whenever desired.

The compatibility of your intercom system to the Riedel RPL 2000 2-wire intercom is a pre-condition for normal, trouble-free operation (unless additional interface equipment is used).



3.3 Connection to LINE / 4 wires

Connection to a LINE input or output is via the LINE IN or LINE OUT XLR sockets at rear of RiFace TV.

If the RiFace is used in the basic version, then connection is in a simplex mode of operation. The line user must press the PTT illuminated push button (lights red when activated) to talk to the radio user. The PTT illuminated push button must be reset in order to receive from the radio user. Another possibility for controlling transmission is to activate the VOX function by pressing the illuminated VOX push button (lights green when activated). The operating threshold can be adjusted via the controller on the front of the unit. When a signal at the input that is above the set threshold is recognized, then the transmitter is keyed to transmit. If there is no such signal then the system returns to receive.

If you are using an extended version of RiFace TV, then you can use it in semi-duplex operation. In order to do so, one radio unit is set to constant transmission, while the other remains on receive. Thus, the intercom user does not need to press the PTT illuminated push button to transmit; the user is constantly on transmit and can speak whenever desired.

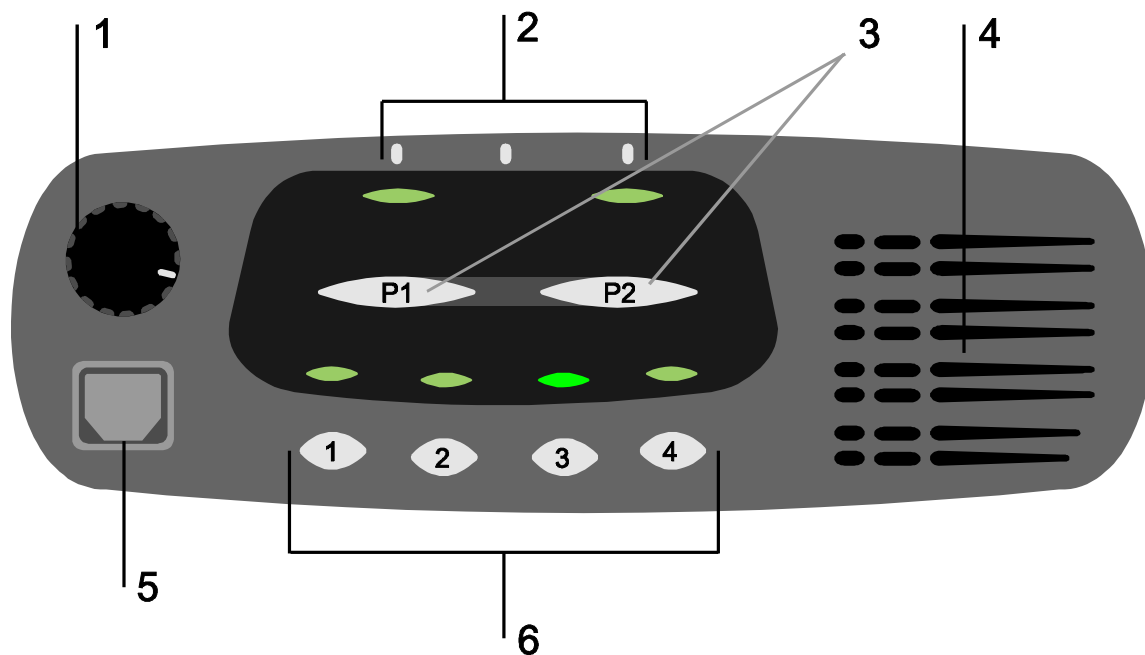
Raising or lowering the signal level to the radio can be carried out via the LINE IN controller on the front of the RiFace TV. Raising or lowering the signal level to your line system can be carried out via the LINE OUT setting on front panel of the RiFace TV.



4. Radios - operating elements

This description only covers the operating elements necessary for the RiFace TV. Please see the respective radio handbook for more detailed information.

4.1 GM340



1. Power switch and volume control for the radio

2. LED display: red, yellow, green

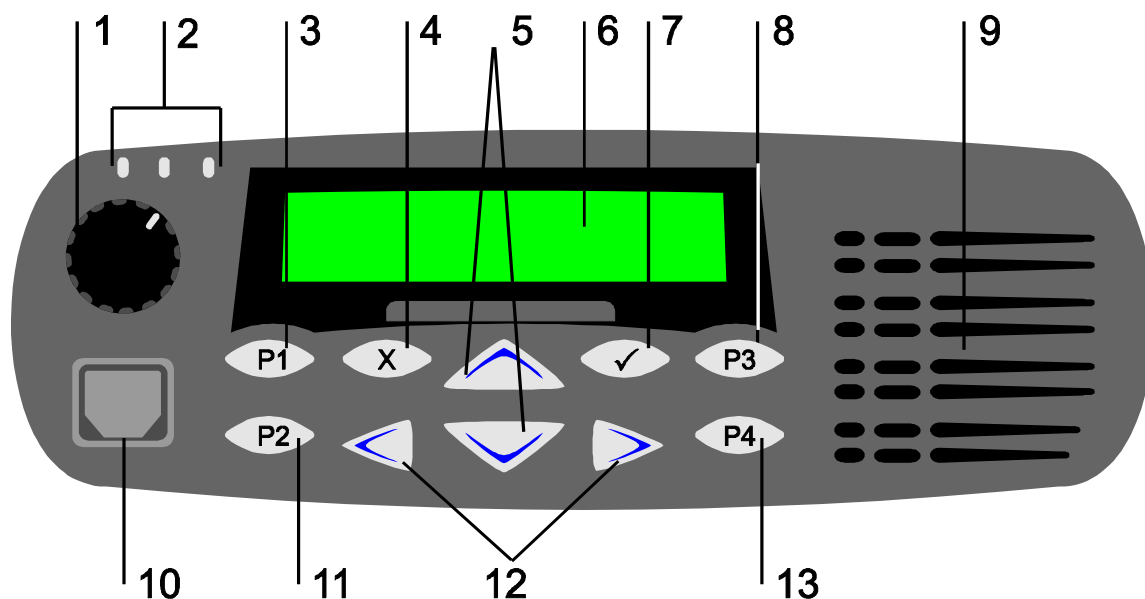
3. Programmable keys

4. Built-in loudspeaker

5. Microphone connector

6. Programmable keys

4.2 GM360



1. Power switch and volume control for the loudspeaker

2. LED display: red, yellow, green

3. Programmable key 1

4. Exit menu / end key

5. Channel selector / menu selector up/down

6. LCD display

7. Programmable key 3

8. Programmable key

9. Built-in loudspeaker

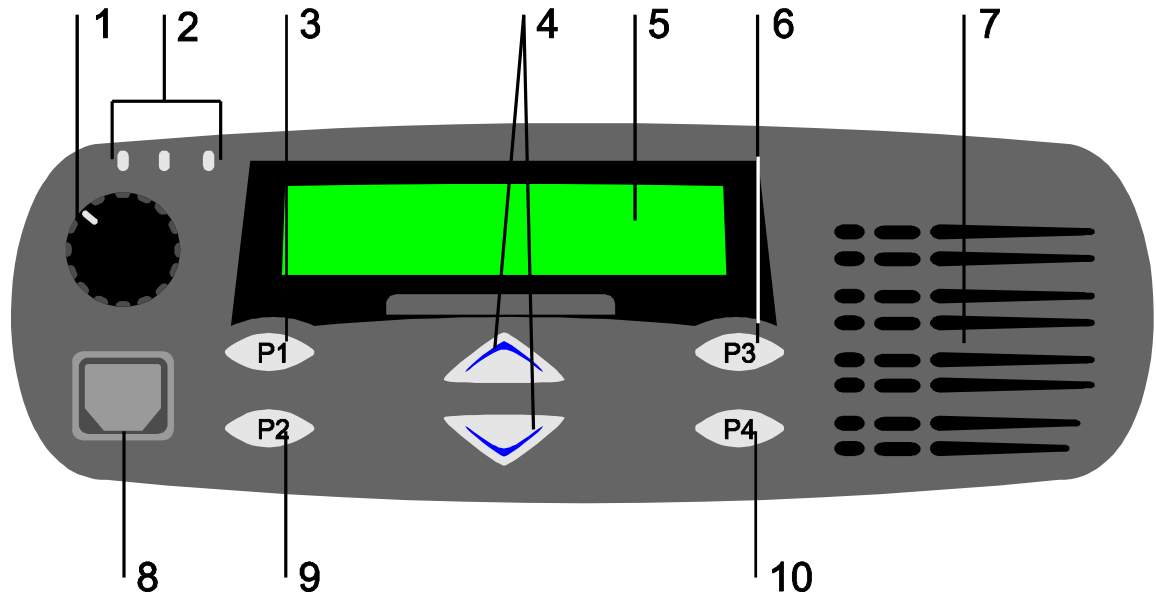
10. Microphone connector

11. Programmable key 2

12. Edit key left / right

13. Programmable key 4

4.3 PRO5100



1. Power switch and volume control of the loudspeaker

2. LED display: red, yellow, green

3. Programmable key 1

4. Channel selector switch up/down

5. LCD display

6. Programmable key 3

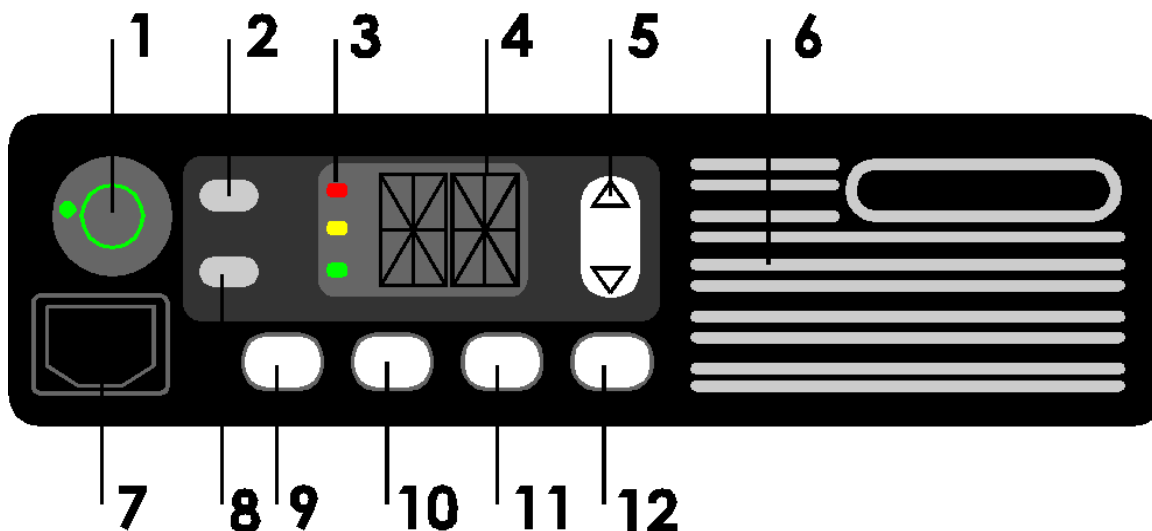
7. Built-in loudspeaker

8. Microphone connector

9. Programmable key 2

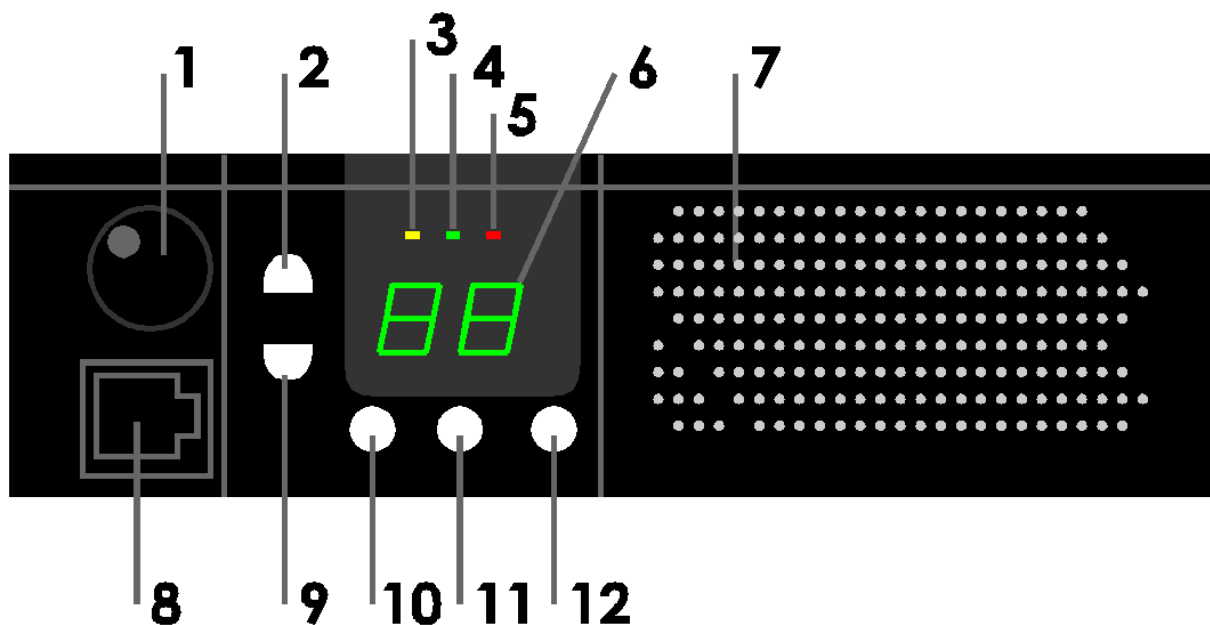
10. Programmable key 4

4.4 GM900



1. 1. On / off switch and volume control for integrated loudspeaker (press for on/off)
2. Not used, see radio handbook
3. Constant red light = transmitting signal
Blinking red light = receiving signal
4. Channel signal display
5. Channel selection key
6. Integrated loudspeaker
7. Microphone jack
8. Not used, see radio handbook
9. Not used, see radio handbook
10. Not used, see radio handbook
11. Not used, see radio handbook
12. Not used, see radio handbook

4.5 GM300



1. 1. On / off switch and volume control for integrated loudspeaker
2. Channel selection key
3. See radio handbook
4. See radio handbook
5. Constant red light = transmitting
Blinking red light = receiving
6. Channel signal display
7. Integrated loudspeaker
8. Microphone jack
9. Channel selection key
10. Not used, see radio handbook
11. Not used, see radio handbook
Not used, see radio handbook

5. General specs

5.1 Electric data for RiFace TV

Inputs / Outputs:

- Transformer symmetrical LINE In +6dB adjustable +/- 15dB
- Transformer symmetrical LINE Out +6dB adjustable +3dB - +14dB
- Galvanically separated Intercom -14dB adjustable - 49dB - -1dB
- VOX threshold -25dB adjustable +3dB - -50dB

RiFace TV M

Frequency range 146 – 174 MHz or 450 – 470 MHz at 1 watt RF transmitting power

RiFace TV G

Frequency range 146 – 174 MHz or 450 – 470 MHz or 477 – 512 MHz at 1 – 6 watt RF transmitting power

5.2 Dimensions and weight

The RiFace TV housing is 19" Norm 2 RU with a depth of 360mm.

Overview of the weights of the different versions

Version	kg
RiFace TV G Basic	7.85
RiFace TV G Extended	9.40
RiFace TV M (GM900) Basic	7.80
RiFace TV M (GM900) Extended	9.30
RiFace TV M (GM300) Basic	8.00
RiFace TV M (GM300) Extended	9.70

